

What is claimed is:

1. A hydrodynamic bearing system, comprising:

a bearing sleeve having an inner opening;

a shaft accommodated in said inner opening of said bearing sleeve;

a bearing gap formed between said shaft and said sleeve, said bearing gap being filled with a lubricant;

at least one radial bearing section located between said bearing sleeve and said shaft for rotatably supporting said shaft and said bearing sleeve with respect to each other;

an axial bearing section; and

at least one duct formed within said bearing sleeve,

wherein said duct is formed as a tapered bore extending from an outer portion of said bearing sleeve to said bearing gap, wherein said duct has its narrowest cross-section in said bearing gap, and wherein said duct comprises a lubricant reservoir and an equalizing volume and is at least partially filled with said lubricant.

2. The hydrodynamic bearing system according to claim 1, wherein said duct extends from an outer diameter to an inner diameter of said bearing sleeve.

3. The hydrodynamic bearing system according to claim 1, wherein said duct extends substantially perpendicular to a rotational axis of the hydrodynamic bearing system.
4. The hydrodynamic bearing system according to claim 1, wherein said duct extends from an end face to an inner diameter of said bearing sleeve.
5. The hydrodynamic bearing system according to claim 1, wherein said duct extends at an angle to a rotational axis of said hydrodynamic bearing system.
6. The hydrodynamic bearing system according to claim 1, wherein filling level of said lubricant reservoir accounts for at least 50% of a total filling volume of said hydrodynamic bearing system.
7. The hydrodynamic bearing system according to claim 1, wherein said duct is sealed by a cover of a predetermined shape.
8. A hydrodynamic bearing system, comprising:
 - a bearing sleeve having an inner opening;
 - a shaft accommodated in said inner opening of said bearing sleeve;
 - a bearing gap formed between said shaft and said sleeve, said bearing gap being filled with a lubricant;

at least one radial bearing section located between said bearing sleeve and said shaft for rotatably supporting said shaft and said bearing sleeve with respect to each other;

an axial bearing section; and

at least one annular groove located on an outer diameter of said bearing sleeve,

wherein said annular groove is connected to said bearing gap via at least one fluid-conducting duct, and wherein said groove and said duct each comprises a lubricant reservoir and an equalizing volume and is at least partially filled with said lubricant.

9. The hydrodynamic bearing system according to claim 8, wherein said groove is a notch.

10. The hydrodynamic bearing system according to claim 8, wherein filling level of said lubricant reservoir accounts for at least 50% of a total filling volume of said hydrodynamic bearing system.

11. The hydrodynamic bearing system according to claim 8, wherein said groove is sealed by a cover of a predetermined shape.